

Data Sheet for Joysticks

Hand Joystick

Series 891



- Cobra head ergonomic multifunction handle
- 1 to 4 Axes
- Optional up to six micro switches, plus four pushbuttons and two switches

The 891 series offers an outstanding ergonomic handle and high quality mechanism. The Cobra head-like handle can be configured with pushbuttons, switches and a trigger enabling many different deflection-dependent operations according to your needs.

Technical Data Joystick

| | |
|-------------------------------------|-----------------------|
| Angle of Movement X-, Y-Axis | ±22..±26° from center |
| Angle of Movement Z1-, Z2-Axis | 15° ±4 ° |
| Vibration | 10 G |
| Shock | 30 G |
| Length of Wires | 300 mm |
| Return to Center Accuracy X / Y | ±3% |
| Operating Force | 2..12 N |
| Expected Life | 10 million cycles |
| Operating Temperature | -20..+60°C |
| Weight (depending on configuration) | ca. 950 g |

Technical Data Pushbuttons

Pushbuttons SW1, SW2, SW3, SW6

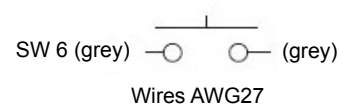
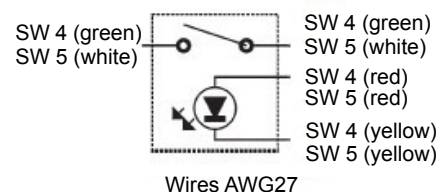
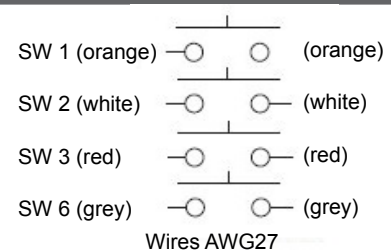
| | |
|---------------------------|----------------------------|
| Operating Characteristics | ON when pushed (momentary) |
| Insulation Resistance | > 1.000 MOhm at 500 VDC |
| Expected Life | approx. 500.000 operations |
| Rating | 50 VDC / 0,1 A |
| Dielectric Strength | 1 minute at 1.000 VAC |

Pushbuttons SW4, SW5, illuminated

| | |
|---------------------------|---------------------------|
| Operating Characteristics | Alternate type |
| Insulation Resistance | > 200 MOhm at 500 VDC |
| Expected Life | approx. 10.000 operations |
| Rating | 30 VDC / 5 A |
| Rating LED | 1,85 VDC / 20 mA |

Trigger SW7

| | |
|---------------------------|----------------------------|
| Operating Characteristics | ON when pushed (momentary) |
| Insulation Resistance | > 100 MOhm at 500 VDC |
| Expected Life | approx. 100.000 operations |
| Rating | 30 VDC / 100 mA |
| Dielectric Strength | 1 minute at 600 VAC |



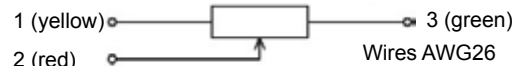
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Technical Data Potentiometers X- / Y-Axis

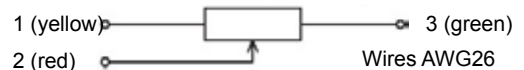
| | |
|---------------------------|--------------------------|
| Total Resistance Value | 10 kOhm $\pm 15\%$ |
| Electrical Rotating Angle | 44° $\pm 5^\circ$ |
| Expected Life | approx. 5 million cycles |
| Power Rating | max. 0,2 W |
| Independent Linearity | $\pm 3\%$ |
| Return to Center Accuracy | $\pm 1,5\%$ |



Only for joysticks 891 with bottom housing wires will be attached and fed to the outside.

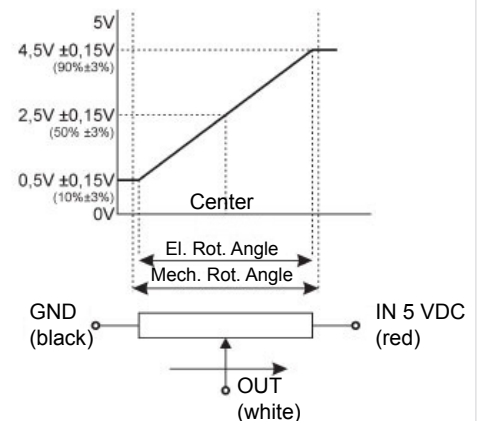
Technical Data Potentiometers Z1, Z2

| | |
|---------------------------|--------------------------|
| Total Resistance Value | 10 kOhm $\pm 15\%$ |
| Electrical Rotating Angle | 30° $\pm 5^\circ$ |
| Expected Life | approx. 2 million cycles |
| Power Rating | max. 0,2 W |
| Independent Linearity | $\pm 3\%$ |
| Return to Center Accuracy | $\pm 3\%$ |



Technical Data Hall Sensor Type H

| | |
|--------------------------|--------------------------|
| Supply Voltage | 5 VDC $\pm 10\%$ |
| Current Consumption | approx. 6 mA |
| Output Voltage | 0,5 .. 4,5 VDC |
| Impedance | > 100 kOhm |
| Independent Linearity | $\pm 3\%$ |
| Temperature Drift Out | < $\pm 2,5\% U_{Out} FS$ |
| Temperature Drift Center | < $\pm 0,5\% U_{Out} FS$ |
| Dielectric Strength | 1 minute at 250 VAC |
| Insulation Resistance | > 100 MOhm at 250 VDC |
| Operating Temperature | -20..+65 °C |
| Expected Life | approx. 5 million cycles |



Technical Data Micro Switches (Activated with Handle Deflection)

Joysticks of Series 891 can be optionally supplied with micro switches. For each axis, up to 3 angles for activation of these switches are possible. The specification of suitable angles can be given by the customer. E.g. one variant could be: One switch for the detection of center position (Joystick at rest) plus additional positions at +10° and -10° on each axis.

| | Angle Position (without / with housing) | Center Detection |
|-----------------------|---|------------------|
| Voltage, Current | 125 VAC, 5 A / 30 VDC, 100 mA | 125 VAC, 5 A |
| Expected Life approx. | 200.000 / 100.000 | 200.000 |

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Order Code

| | | | | | | | | | | |
|--|------------|---|---|---|---|---|---|---|---|---|
| Series | 891 | | | | | | | | | |
| Axes | | | | | | | | | | |
| 1 Axis | | 1 | | | | | | | | |
| 2 Axes | | 2 | | | | | | | | |
| 3 Axes, with Rocker Z1 | | 3 | | | | | | | | |
| 3 Axes, with Rocker Z2 | | 4 | | | | | | | | |
| 4 Axes, with Rockers Z1 + Z2 | | 6 | | | | | | | | |
| Rubber Boot | | | 5 | | | | | | | |
| Spring Return to Center Position | | | | 1 | | | | | | |
| Without Spring Return | | | | 2 | | | | | | |
| Friction Clutch with Center Detect Switch | | | | 5 | | | | | | |
| Friction Clutch | | | | 6 | | | | | | |
| Handles | | | | | | | | | | |
| Cobra | | | | | 1 | | | | | |
| Cobra with Trigger SW7 | | | | | 2 | | | | | |
| Cobra with Pushbutton SW3 | | | | | 3 | | | | | |
| No Trim Function (Standard) | | | | | | 1 | | | | |
| With Trim Function (only w/ Pot and w/o housing) | | | | | | 3 | | | | |
| Sensors | | | | | | | | | | |
| Potentiometer F (X-/Y-Axis), PW30 (Z-Axis) | | | | | | | 4 | | | |
| Hall Sensors (X-/Y-Axis), PW30 (Z-Axis) | | | | | | | H | | | |
| Housing | | | | | | | | | | |
| Without Housing | | | | | | | 0 | | | |
| With Housing | | | | | | | 1 | | | |
| Limiters | | | | | | | | | | |
| Round (Standard) | | | | | | | | 1 | | |
| Square | | | | | | | | 2 | | |
| „L“-Shape | | | | | | | | 3 | | |
| Single Axis Y | | | | | | | | 6 | | |
| Single Axis X | | | | | | | | 7 | | |
| Plus Shape „+“ | | | | | | | | 9 | | |
| Without Center Detecting Switch | | | | | | | | | 0 | |
| Center Detect X-/Y-Achse | | | | | | | | | 1 | |
| Position Switch X-/Y-Axis ON at $\pm 5^\circ$ Deflection | | | | | | | | | 2 | |
| Position Switch X-/Y-Axis ON at $\pm 5^\circ$ Deflection & Center Detecting Switch | | | | | | | | | 3 | |
| Pushbuttons | | | | | | | | | | |
| None | | | | | | | | | | 0 |
| 1 Pushbutton SW6 | | | | | | | | | | 1 |
| 2 Pushbuttons SW1, SW2 | | | | | | | | | | 2 |
| 3 Pushbuttons SW6, SW1, SW2 | | | | | | | | | | 3 |
| Switches | | | | | | | | | | |
| None | | | | | | | | | | 0 |
| 1 Switch SW4 | | | | | | | | | | 1 |
| 2 Switches SW4, SW5 | | | | | | | | | | 2 |

For joysticks available from stock please see our stock types list: <http://www.megatron.de/en/stocklists/joysticks/lagerliste.html>

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For higher quantities or on-going demand, additional options are available

For example:

- Customer-specific wiring

Available options for small quantity orders can be found on our stock types list on:

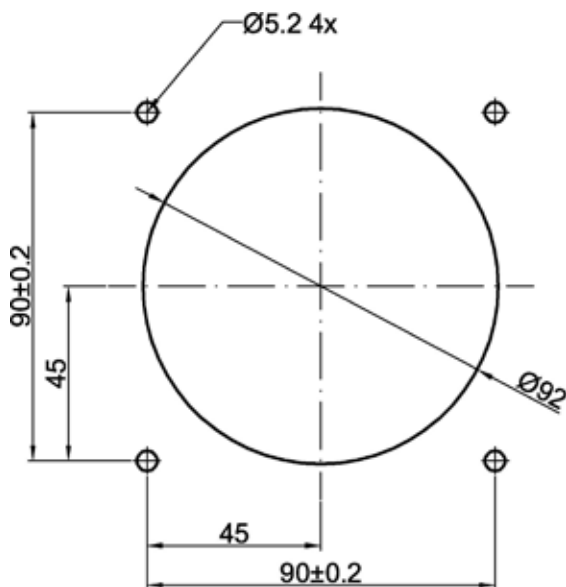
<http://www.megatron.de/en/stocklists/joysticks/lagerliste.html>

In addition, we have an extensive stock of samples for project needs.

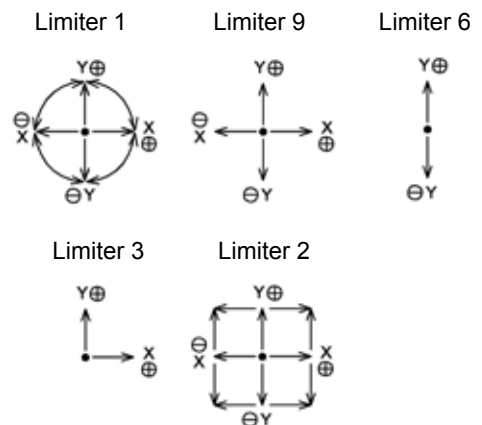
For technical advice, projects, samples, questions about pricing, delivery times and availability please contact us

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export@megatron.de

Mounting Cut-Out and Orientation of Limiters



Orientation of Limiters



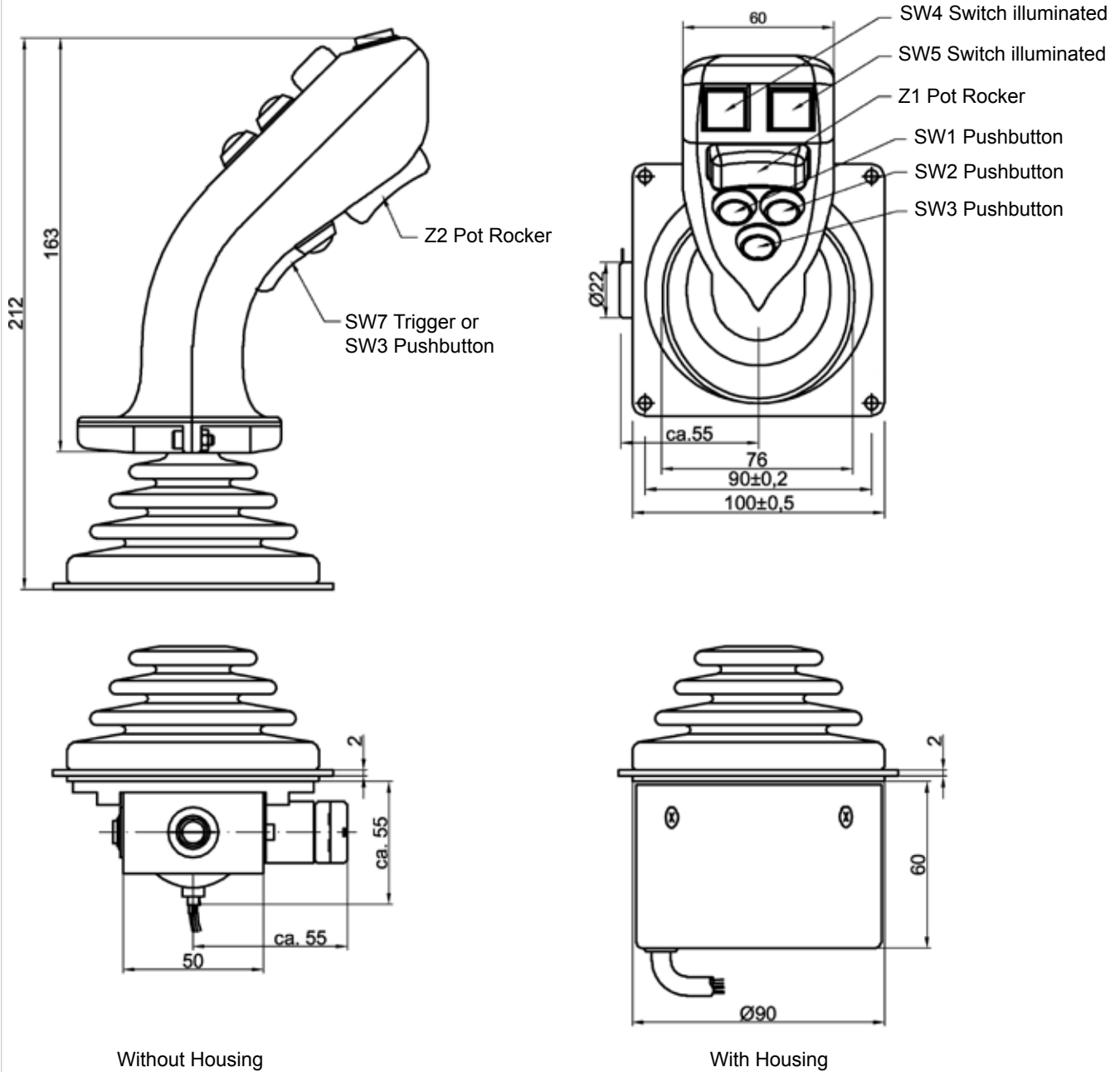
All Dimensions in mm

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Technical Drawings



All Dimensions in mm